

IN THE CLAIMS

The status of the claims as presently amended is as follows:

1-38. (Canceled)

39. (New) A self-sealing pressure release apparatus comprising:

a pressure vessel;

a valve assembly for enabling release or pressurized steam from the pressure vessel, the valve assembly having a displaceable closure member which, in its closed disposition, is maintained in the closed disposition only by exposure to the pressure of the steam within the pressure vessel; and

a double acting actuator for displacing the closure member from the closed disposition to an open disposition against the pressure of the steam within the pressure vessel for the release of steam from the pressure vessel.

40. (New) The self-sealing pressure release apparatus according to claim 39, wherein the double-acting actuator comprises an air-driven piston-cylinder device.

41. (New) The self-sealing pressure release apparatus according to claim 39, further comprising:

a spindle extending between the closure member and the actuator,
wherein the closure member is mounted at one axial end of the spindle.

42. (New) The self-sealing pressure release apparatus according to claim 39, wherein:

the valve assembly further includes a valve body having a metal valve seat portion, and
the closure member has a metal contact part that contacts the metal valve seat portion for metal-to-metal contact with a valve seat portion, without interposition of any sealing element.

43. (New) The self-sealing pressure release apparatus according to claim 42, further comprising a face portion which is interchangeably secured to the closure member.

44. (New) The self-sealing pressure release apparatus according to claim 43, wherein the metal valve seat portion is interchangeably secured to the valve body and engages the face portion.

45. (New) The self-sealing pressure release apparatus according to claim 39, wherein the closure member is mounted for substantially vertical displacement between the closed disposition and the open disposition of the closure member.

46. (New) The self-sealing pressure release apparatus according to claim 39, wherein:
the valve body has a steam entry side and a steam exit side,
each of the steam entry and exit sides has a flange
the nominal flange size of the valve body at the steam exit side is substantially greater than the nominal flange size of the valve body at the steam entry side.

47. (New) A product treatment system comprising the self-sealing pressure release apparatus according to claim 46, wherein the valve assembly is mounted for release of pressurized steam into an expansion region.

48. (New) The product treatment system according to claim 47, further comprising:
a solids trap,
wherein the solids trap is in communication with the expansion region to receive steam from the expansion region at a substantially reduced pressure in comparison with the steam pressure on initial entry into the expansion region, along with any entrained solid matter,
wherein the expansion region is configured to receive pressurized steam discharged from the pressure vessel at an end of a steam treatment phase of the product treatment via the self-sealing pressure release apparatus.

49. (New) The product treatment system according to claim 48, wherein the solids trap has a cyclonic configuration.

50. (New) The product treatment system according to claim 48, further comprising:
an exhaust stack communicating between the solids trap and atmosphere,
wherein the stack includes noise reduction apparatus.

51. (New) The product treatment system according to claim 50, wherein:

the noise reduction apparatus comprises a stack region of enlarged cross-section transverse to the direction of exhaust flow,

the enlarged cross-sectional region comprising a plurality of spaced-apart perforated plates each disposed transversely to the direction of exhaust flow.

52. (*New*) The product treatment system according to claim 48, wherein:

the pressure vessel is rotatable, and

the product treatment comprises steam peeling.